

change is effected in the color of the maxilla, which, however, does not attain the same degree of jet blackness.

The second complete moult of the year is now finished, and again we have the rollicking Bobolink of our fields and meadows.

OBSERVATIONS ON SOME OF THE SUMMER BIRDS OF THE MOUNTAIN PORTIONS OF PICKENS COUNTY, SOUTH CAROLINA.

BY LEVERETT M. LOOMIS.

(Concluded from p. 39.)

29. *Cyanocitta cristata*. BLUE JAY.—It is remarkable that this bird, in the mountains, seeks a home on the wild and remote summits away from the settlements, while at Pickens Court House, only a dozen miles away, it is a familiar inhabitant of the shade trees of the streets and door-yards.

30. *Corvus corax* ———? RAVEN. — The Ravens of this district are eminently birds of the mountain tops, venturing into the settled valleys only during brief excursions in search of food. They are said to descend to these lower grounds to feed on carrion more freely in winter than in summer. Their more frequent presence at the former season is ascribed to increased scarcity in the food-supply, but probably they are actually more abundant, re-enforcements coming from the higher points of North Carolina. Whenever the chance offers, their nests are broken up and the young destroyed, but in spite of persecution they continue to hold their own, and may justly be ranked as tolerably common. (See also Auk, VI, 277.)

31. *Corvus americanus*. AMERICAN CROW. — Occurs as commonly here as elsewhere in the up-country during summer.

32. *Spinus tristis*. AMERICAN GOLDFINCH. 'LETTUCE-BIRD.'—Rather common, especially in the Oolenoy Valley.

33. *Spizella socialis*. CHIPPING SPARROW. — A very common songster in suitable situations. On Mt. Pinnacle its range extends along the barren ridges, among scattered pines, to the heavy hardwood growth crowning the summit.

34. *Spizella pusilla*. FIELD SPARROW.—In the Oolenoy Valley these Sparrows are very common, but on the heights above they are sparingly distributed, being limited to the clearings. Their musical efforts exhibited the peculiarities characteristic of the species in the lower country.

35. *Pipilo erythrophthalmus*. TOWHEE. 'JOE-REE.'—June 5, while *en route* for the mountains, I shot a male in full song three miles west of Spartanburgh Court House. Another was heard singing later in the day at a mill pond on the Middle Tiger, also in Spartanburgh County. As I was returning home, July 4, through the same County, the call-notes of one were heard on the outskirts of the court-house town, while another sang with effect at my noonday camp, five miles south of it on the Spartanburgh and Union Railroad.

In the vicinity of Mt. Pinnacle it was seen only in the Oolenoy Valley, where it inhabited the scrubby growth of the clearings. It did not appear to be very common. As further showing the extension of this species along the northern boundary of the State during the breeding season, it is pertinent to add that in the early part of July, 1888, I heard two males sing daily at All-Healing Springs, at the foot of Crowder's Mountain—a peak of the King's Mountain chain, just over the line in North Carolina, about forty miles north of Chester.

36. *Cardinalis cardinalis*. CARDINAL. 'REDBIRD.'—Not detected above 2500 feet; common. Though prominent as musicians, their performances lacked the spirit and unction of spring. Along with the 'Joe-ree,' held in considerable ill repute because of alleged depredations on newly planted corn.

37. *Guiraca cærulea*. BLUE GROSBEAK.—A single male was seen, July 2, in the Oolenoy bottoms opposite Table Rock. My attention was directed to it by its song.

38. *Passerina cyanea*. INDIGO BUNTING.—Its vertical range unrestricted. Very common, and in complete song.

39. *Piranga erythromelas*. SCARLET TANAGER. 'PINY WOODS RED-BIRD.'—Above 2000 feet these Tanagers were very common, but below this none were discovered. The males sang with unabated ardor through the whole of June. The testes of several examined toward the close of the month were fully developed. Young birds—just on wing—were obtained June 24.

40. *Piranga rubra*. SUMMER TANAGER. 'REDBIRD.'—Up to about 2000 feet they were very common, but above this elevation they appeared to be replaced by *erythromelas*. They continued in good voice during the whole of my last stay.

41. *Progne subis*. PURPLE MARTIN. 'BLACK MARTIN.'—Wherever gourds were put up for their accommodation they were present.

42. *Stelgidopteryx serripennis*. ROUGH-WINGED SWALLOW. 'CREEK MARTIN'; 'BANK MARTIN.'—Seen daily hawking for insects over the bottom-lands along the Oolenoy. Tolerably common.

43. *Ampelis cedrorum*. CEDAR WAXWING.—An example was taken June 22, 1887, on a rocky stream, skirted by rhododendrons, in a heavily wooded ravine near the foot of Mt. Pinnacle. A second specimen was procured, June 26, 1889, in the large timber investing the summit of that eminence, at an altitude of about 3000 feet.

44. *Vireo olivaceus*. RED-EYED VIREO.—The most conspicuous of all

the songsters of the region. Very abundant in woods everywhere, on the highlands and in the valleys.

45. *Vireo flavifrons*. YELLOW-THROATED VIREO.—Common, seemingly confined to the middle and lower elevations. Its strong clear notes were a constant feature in the general chorus.

46. *Vireo solitarius alticola*. MOUNTAIN SOLITARY VIREO.—The Mountain Solitary Vireo is the least abundant member of the family thus far met with in this locality. It is sparsely distributed, occurring chiefly above 2000 feet. Two specimens were secured in the Oolenoy Valley—a female, June 11, and a male, June 13. It is at all times a persistent vocalist. There is a charm in its voice that instantly arrests attention, a charm not alone of rarity, but of melody, singular in sweetness, and peculiar in power of penetration. I am convinced a second brood is occasionally, if not habitually, reared, for a female was taken, June 8, whose ovary plainly indicated that eggs were about to be deposited. The first offspring of this bird, which were well on wing, were still under the care of the parents.

Examples from these mountains—a region of heavy precipitation—show that *alticola* is a strongly marked race. A casual examination is sufficient to reveal the striking differences existing between it and *V. solitarius*. The dark plumbeous of the back and the large size of the bill distinguish it at a glance. There is considerable variation, in individuals, in the coloration of the upper parts. In the most characteristic specimen of my series, mottled plumbeous, dusky and blackish, are the prevailing colors, the green being barely discernible, except on the rump. In a second specimen, representing the other extreme, the plumbeous is of a dusky shade, and much restricted, the green predominating on the rump and blending prominently with the plumbeous on the lower neck and upper back. In one of the young birds referred to above the color of the upper portions is nearly uniform plumbeous-gray. In another, the gray of the back is tinged with green, which increases in intensity until it prevails over the plumbeous on the rump and upper tail-coverts. In typical examples of *solitarius*, and also in intermediate ones, from Chester County, the basal portion of the lower mandible, and frequently the whole of it except the tip, is plumbeous, while in adult mountain birds this part of the bill is uniformly black, or displays but very slight indications of plumbeous. Three birds of the year, however, have the bill similar in color to mature Chester specimens. In adult mountain birds the black in this member is also noticeably deeper. The whitish edging of the innermost secondaries, in adults, is greatly restricted. In several it is nearly obsolete. In the young of the year, so far as my knowledge goes, this edging is as extensive as in *solitarius*. It is noteworthy that the example, most eminently characteristic, came from the Oolenoy Valley. It would naturally be supposed that the lowlands would have yielded exemplifications less typical than the highlands. I have never seen an individual, in life, of either style having the tarsi and podium "blackish plumbeous." In every instance these extremities were light gray, usually decidedly plumbeous in cast.

MEASUREMENTS (in millimetres).

| <i>Sex.</i> | <i>Length.</i> | <i>Extent.</i> | <i>Chord of Wing.</i> | <i>Chrd of Exp. Culmen.</i> |
|-------------|----------------|----------------|---------------------------|---------------------------------|
| ♂ | 154.94 | 256.54 | 81.28 | 11.68 |
| ♂ | 152.40 | 254.00 | 70.75 | 11.43 |
| ♂ | 152.40 | 254.00 | 79.25 | 11.68 |
| ♂ | 151.64 | 257.81 | 81.53 | 12.45 |
| ♂ | 149.86 | 254.00 | 79.50 | 11.43 |
| ♂ | 149.86 | 251.46 | 78.23 | 11.43 |
| ♀ | 152.40 | 248.92 | 77.21 | 12.19 |
| ♀ | 149.86 | 238.76 | 74.17 | 11.68 |

47. *Vireo noveboracensis*. WHITE-EYED VIREO.—So far as I am aware, it is confined to the Oolenoy Valley, where it is a common songster.

48. *Mniotilta varia*. BLACK-AND-WHITE WARBLER.—Noted at all elevations. Very common. Although individuals continued to sing to the end of my last visit, still, from the outset, the song season was markedly on the wane. An adult male sang so strangely at the summit of Mt. Pinacle, June 22, that I found it necessary to shoot it in order to fully satisfy my mind as to its identity.

49. *Helminthus vermivorus*. WORM-EATING WARBLER.—Decidedly common, in the wooded ravines and coves, from the lower valleys to the crests of the mountains. Young birds—well clothed and steady of wing—were obtained early in June.

50. *Helminthophila chrysoptera*. GOLDEN-WINGED WARBLER.—An adult male in full feather and a bird of the year in ragged plumage were shot, June 29, in a thicket on the edge of a little clearing just below the High-low Gap, at an altitude of about 2500 feet.

51. *Compsothlypis americana*. PARULA WARBLER.—This bird was very common, and sang with vigor as long as I remained. The timbered hollows, from base to apex, were favorite haunts.

52. *Dendroica æstiva*. YELLOW WARBLER.—Rather common in the cultivated valleys. Not observed elsewhere. In full song.

53. *Dendroica pensylvanica*. CHESTNUT-SIDED WARBLER.—Only found at isolated points, and not lower than 2500 feet. The situation where they were most numerous was a small clearing near the High-low Gap. Here as many as five males were heard singing in the course of a few minutes. The testes of males procured June 13 and later were about the size of a small pea. In song through June.

54. *Dendroica blackburniæ*. BLACKBURNIAN WARBLER. But three specimens were obtained—two adult males, in full dress, June 18 and 21, at about 2500 feet; a female, moulting, June 24, above 3000 feet. All were in hardwood timber. The testes of the males were not larger than a pin's head of ordinary size.

55. *Dendroica dominica albilora*. SYCAMORE WARBLER.—A pair, accompanied by their brood, was met with June 23, 1887, among a mixed

growth of pines and hardwood, on a spur of Mt. Pinnacle a few hundred feet above the Oolenoy. The parents and one of the young were secured. The superciliary stripe of the male, in the flesh, was slightly tinged over the lores with yellow for 6.3 mm. In the female the yellow tingeing was scarcely perceptible, and extended only 3.8 mm. In both the yellow was interrupted at the base of the bill by pure white. Dimensions as follows: Male, bill from nostril, 8.9 mm.; length, 127.0 mm.; wing, 64.3 mm.; longest rectrix, 52.1 mm. Female, bill from nostril, 9.1 mm.; length, 127.0 mm.; wing, 61.0 mm.; longest rectrix, 52.1 mm. While not typical illustrations, I have placed these examples, without question, under *albilora*, as, in my judgment, they approach that form more nearly than *dominica* proper.

56. *Dendroica virens*. BLACK-THROATED GREEN WARBLER.—I was much surprised to find that the Black-throated Green Warbler was a very common bird at the foot of the mountains, as well as over the higher slopes. Its peculiar song, which was uttered with unflinching emphasis during the entire month of June, rendered it one of the more prominent choristers of the woodland. A well-feathered bird of the year was taken June 10. The testes of all examined were not larger than a small pea.

57. *Dendroica vigosii*. PINE WARBLER.—Common in congenial situations. Like the Chipping Sparrow, it ranges along the sterile ridges on Mt. Pinnacle to the heavy timber.

58. *Dendroica discolor*. PRAIRIE WARBLER.—In the Oolenoy Valley and other lowlands of the immediate vicinity it is tolerably common in scrubby growth.

59. *Seiurus aurocapillus*. OVEN-BIRD.—On Mt. Pinnacle Oven-birds were very common near the top, but they did not appear to descend below 3000 feet, although locations possessing features similar in character to those occupied occur at lower elevations. On the Horse Mountain, just across the north fork of the Oolenoy from Mt. Pinnacle, they were common as low down as 2000 feet. Near the High-low Gap, at 2500 feet, they were very common. They were also detected at Table Rock. Deciduous woods, chiefly those free from undergrowth, were habitually frequented. In these haunts throughout the day their loud chant fell continually upon the ear. I did not find the young on wing until the last week in June. A female taken June 26, had ova as large as BB shot. This suggests that a second hatch is raised, if not regularly, at least occasionally.

60. *Seiurus motacilla*. LOUISIANA WATER-THRUSH.—The distribution of this species is not determined by altitude, but by the presence or absence of running water; thus it is common along the streams, among rhododendrons, at the base of the mountains and up their sides to above 3000 feet. Well-fledged young were taken in a little cove on the north side of Mt. Pinnacle, just below the highest point, on my first arrival, both in 1888 and 1889. At this early date, also, the adults were beginning to moult, and their generative organs were greatly diminished in size. In Reedy Cove (1800 feet) young, but very recently a-wing, were captured several days later, evidencing that the breeding season on the higher grounds is not necessarily tardier than on the lower.

61. *Geothlypis formosa*. KENTUCKY WARBLER.—Indifferent to elevation, these Warblers are everywhere abundant in the wooded hollows, coves, and ravines; these shady retreats constituting their true haunts, though during the cooler hours of the day individuals stray from the near proximity of the water courses to the sunny slopes of the adjacent hillsides. During the height of the season they have few rivals in persistency of song, but as June advances, and the young begin to be abroad, they sing with rather less frequency, though not with less force and spirit. Besides their loud chant, so commonly uttered, I think they have a second and more pleasing song, but of this I cannot speak with certainty, as I never succeeded in detecting one in the act of singing, for the song was repeated only at rare intervals, and always in the seclusion of the rhododendrons, but each attempt to discover the author invariably developed a Kentucky Warbler in the spot whence the sound had issued. When their haunts are invaded, they resent intrusion with loud querulous chirps which are as distinctive as their song notes. Though of retiring disposition, especially early in the season, when their young are hatched they often challenge observation by exhibiting themselves with boldness. The first bird of the year was shot June 20.

62. *Geothlypis trichas*. MARYLAND YELLOW-THROAT.—A common songster in June and July in the open bottoms among the willows and other shrubbery fringing the Oolenoy and its tributaries.

63. *Icteria virens*. YELLOW-BREASTED CHAT; 'MOCKINGBIRD.'—Abundant, particularly in the Oolenoy Valley, ranging along the mountain brooks in the more open places to above 3000 feet. Their presence is always a sure indication of water at the higher levels, and upon more than one occasion have my steps been directed, when thirsty, by their loud notes to spring-heads near the summits. Their eccentric aerial performances were noticed as late as the middle of June.

64. *Sylvania mitrata*. HOODED WARBLER.—At the base of the mountains they were very common in the lesser growth of the woods in the neighborhood of branches, straggling upward to about 2500 feet. The males were very prominent singers during each June. It seemed, however, that they sang less frequently the last year on my first arrival than in former years, but with the progress of the rains there appeared to come a revival of song. First young shot June 13.

65. *Mimus polyglottos*. MOCKINGBIRD.—Through Chester and Union Counties Mockingbirds were abundant along the wayside, constantly darting down at my bird dog as he trotted ahead of the wagon. As Spartanburgh Court House was approached, from the south, they became less and less numerous. Very few were seen between Spartanburgh and Greenville, though around the suburbs of the latter town they were quite plentiful. The three previous seasons I found them common about Easley, but none were observed nearer the Oolenoy Valley than Pickens Court House.

66. *Galeoscoptes carolinensis*. CATBIRD.—Common about the settlements. Continued in full song through June.

67. *Harporhynchus rufus*. BROWN THRASHER. 'THRASHER.'—Not abundant, and mainly confined to the open valleys. A male was shot, while singing, on the edge of a clearing at about 2000 feet, which was the highest altitude at which the species was discovered.

68. *Thryothorus ludovicianus*. CAROLINA WREN.—Met with everywhere—on the pinnacle of the highest point in the State, over the slopes, and in the valleys. Very common. As often happens, nests were found in curious locations. One was situated in a little wooden box nailed to a tree by the wayside for the reception of the mail of the owner of a house a little back from the roadway. The site of another was a tin gallon measure placed, upright, on a high shelf in an open log out-building. The parents did not seemingly object to the measure being taken down and the young inspected. Well incubated eggs, June 23, 1887, and young just hatched, July 10, 1886, apparently signify that second broods are habitual.

69. *Thryothorus bewickii*. BEWICK'S WREN.—The only records I have are July 12, 1886, and June 19, 1889. On the former occasion an individual was seen, and on the latter an adult male taken. Both were in the Oolenoy Valley at the foot of Mt. Pinnacle.

70. *Sitta carolinensis*. WHITE-BREASTED NUTHATCH.—Haunting particularly the hardwood forests, it was common at all heights.

71. *Sitta pusilla*. BROWN-HEADED NUTHATCH.—This Nuthatch was tolerably common among the pines interspersed throughout the lesser deciduous growth, reaching upward, along the sterile ridges, to nearly or quite 2000 feet.

72. *Parus bicolor*. TUFTED TITMOUSE.—Abundantly and evenly dispersed over the wooded country, irrespective of elevation.

73. *Parus carolinensis*. CAROLINA CHICKADEE.—Like its congener, *P. bicolor*, of abundant and universal distribution. *P. atricapillus* was sought for in vain.

74. *Polioptila cærulea*. BLUE-GRAY GNATCATCHER.—Tolerably common in the valley of the Oolenoy. Not noted on the highlands.

75. *Turdus mustelinus*. WOOD THRUSH.—As the mountain region is approached, the Wood Thrush becomes more and more prominent, the cool hollows shaded by large oaks and other deciduous trees affording congenial residence. In the mountains, I found them most numerous from the mid-elevations upwards, but I think the local environment, more than the altitude, occasioned their abundance. So common were they that several performers were often heard at a time in a narrow area—even in the heat of midday. First young shot June 13.

76. *Sialia sialis*. BLUEBIRD.—Common. Owing to the nature of their haunts necessarily restricted in a large degree to the open lowlands. On Mt. Pinnacle occurred at about 3000 feet in a little chestnut 'deadening'—the only suitable nesting place near the summit.